



## Networking slowdown driving faster components

Apart from the woes of the mobile phone companies (detailed in the last issue, page 4), fibre-optic network companies such as Nortel are also suffering at the moment, induced first by the bursting of the "dot.com" investment bubble then aggravated by the economic downturn in the US (and - in the case of Lucent - over-optimism in its expansion plans).

Worst hit are suppliers of current technology. For example, after silicon-based opto component supplier Bookham Technologies listed last April, its value rose to over £50 and it increased its workforce fivefold last year. But, since 60% of its sales were of established mini-DIL technology to Nortel, its share price has slumped to under £3 and it has had to cut 150 jobs as it re-focuses on advanced DWDM components, for which demand is still growing strongly.

Likewise, despite the current market, March's *Optical Fiber Communications* conference drew a host of companies (particularly venture capital start-ups) offering higher-speed components for DWDM. This is being driven by two factors:

- demand for bandwidth is still high,
- higher-speed components allow network providers to increase traffic and cut costs (with the mainstream moving to 10 Gb/s, and 40 Gb/s being readied for 2002/3).

In particular, costs can be cut by (i) using more "agile" components (e.g. MEMS-based tunable VCSELs, to replace multiple edge-emitting lasers for DWDM), and (ii) integrating functions (such as Bandwidth's MEMS-based tunable filters for receivers), which is a particular opportunity for InP.

These provide both increased data capacity per component and reduced size and number of components, speeding introduction of next-generation technology (analogous to how - during the downturn in the silicon industry through 1998 - IC manufacturers cut "capacity" equipment spending and focused on "technology" spending to speed the transition to smaller lithography linewidths, in order to shrink die size and hence cut costs).

As evidenced by the OFC conference - despite Initial Public Offerings for current high-volume production being either severely reduced (e.g. Lucent's Agere) or postponed (e.g. Conexant's Mindspeed) - venture capital is still available to start-ups developing 40 Gb/s components for introduction in 2002/3 (see Issues 1, p22 and 2, p26, and this issue's news pages).

Indeed, although the US National Venture Capital Association says investment dropped 31% between Q3 and Q4/2000, venture capitalists are said to pulling back from dot.coms and instead investing in manufacturing.

So, this is a sign perhaps that, despite any short-term investor doubts, there is confidence in the longer-term need for more capacity and faster and more integrated opto components, as well as evidence of a more sustainable approach in ensuring that infrastructure is developed adequately to support the services that generate the return on investment.

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